

Notice of Allowability

Application No.

10/671,460

Examiner

Mark Ruthkosky

Applicant(s)

SUGIYAMA ET AL.

Art Unit

1795

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address—

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/31/2007.
2. ☒ The allowed claim(s) is/are 1,4-9 and 11-14.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

 1-4-2008
Mark Ruthkosky
Primary Patent Examiner
Art Unit 1745

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/31/2007 has been entered.

Claim Rejections - 35 USC § 103

The rejection of claims 1-14 under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al (EP 1,246,278) in view of Kawakami (US 5,641,591) have been overcome if view of applicant's amendment to the claims.

Allowable Subject Matter

Claims 1, 2, 4-9 and 11-14 are allowed.

The following is an examiner's statement of reasons for allowance:

The instant claims are to an electrode used for a non-aqueous electrode secondary battery, which comprises a current collector of a metallic material not to be alloyed with Li and a pattern of dots formed on the current collector, which is an active material of a metallic material able to be alloyed with Li, wherein the diameter of each dot is 1-500 micrometers, the shape of the dots is a cylindrical column or cone; the dots are regularly arranged, are completely separated from

each other and project outward from the current collector, the metallic material able to be alloyed with Li is at least one element selected from the group consisting of elements of group 14 and alloy thereof, and the occupancy rate of the dots on the current collector is 50 - 90%.

The prior art does not teach a current collector of a metallic material not to be alloyed with Li having an active material in a pattern of metallic dots of at least one element able to be alloyed with Li selected from the group consisting of elements of group 14 and alloys thereof that project outward from the current collector and, wherein the diameter of each dot is 1-500 micrometers, the shape of the dots is a cylindrical column or cone; the dots are regularly arranged, and are completely separated from each other and, the metallic material able to be alloyed with Li is, and the occupancy rate of the dots on the current collector is 50 - 90%.

The most pertinent prior art has been presented. For example, Ikeda et al (EP 1,246,278) teaches an electrode used for a non-aqueous electrolyte secondary battery, which comprises a current collector of a metallic material, which is not alloyed with Li and dots of a metallic material which are able to be alloyed with Li and formed in a form of pattern on the current collector. The diameter of the dots is in the range of 1-500 micrometers. Ikeda et al (EP 1,246,278) does not teach a current collector of a metallic material not able to be alloyed with Li having a pattern of active material dots formed on the current of a metallic material able to be alloyed with Li. Further, the dots are not completely separated from one another. Not all dots are in the range of 1-500 nm and the reference does not teach that the occupancy rate of the dots on the current collector is 50 - 90%. Because the prior art does not teach or render obvious the claimed invention, the claims are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 571-272-1291. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-6:30.) If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free.)

Mark Ruthkosky



Primary Patent Examiner

1-4-2008

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